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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,143	07/26/2001	Masaki Yamamoto	SHIG19990241	7584

7590 04/01/2004  
Norman P Soloway  
Hayes Soloway Hennessey Grossman & Hage  
130 W Cushing Street  
Tucson, AZ 85701

EXAMINER

KAO, CHIH CHENG G

ART UNIT	PAPER NUMBER
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2882

DATE MAILED: 04/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/890,143

Applicant(s)

YAMAMOTO, MASAKI

Examiner

Chih-Cheng Glen Kao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The drawings were received on 9/2/03. These drawings are acceptable.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sweeney et al. (US Patent 6235434) in view of Itou et al. (US Patent 5272744).

3. Regarding claim 8, Sweeney et al. discloses a method comprising the steps of forming a multilayer film (Fig. 1, #110) on a substrate (Fig. 1, #120) and adjusting a wavefront phase by cutting away a portion of a surface thereby roughening the surface (Abstract).

However, Sweeney et al. does not specifically disclose the film composed of high and low refractive index materials.

Itou et al. teaches the film composed of high and low refractive index materials (col. 1, lines 40-45).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to modify the method of Sweeney et al. with the film composed high and

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low refractive indices of Itou et al., since one would be motivated to incorporate this for producing higher reflectivity in the x-ray region (col. 1, lines 45-46) as shown by Itou et al.

4. Regarding claim 10, Sweeney et al. further discloses cutting controlled by detecting a difference between a plurality of materials (col. 4, lines 57-60).

5. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sweeney et al. in view of Itou et al. as respectively applied to claim 8 above, and further in view of Murakami (US Patent 6160867).

For purposes of being concise, Sweeney et al. in view of Itou et al. suggests a method as recited above. Sweeney et al. further discloses cutting a correction film (Fig. 1, #130, and Abstract).

However, Sweeney et al. does not disclose a number of cycles larger than necessary to substantially saturate a reflectance.

Murakami teaches a number of cycles larger than necessary to substantially saturate a reflectance (col. 1, lines 20-25).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to modify the suggested device of Sweeney et al. in view of Itou et al. with the number of cycles of Murakami, since one would be motivated to have that many cycles to obtain as high an interface-amplitude reflectance as possible as implied from Murakami (col. 1, lines 20-25).

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***Response to Arguments***

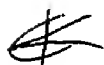
6. Applicant's arguments with respect to claims 8-11 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



gk



DAVID V. BRUCE  
PRIMARY EXAMINER